

Electrical System Permissibility Checklist

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The component and function checks in this document that are designated as “**WEEKLY**” must be performed during each weekly maintenance examination in accordance with 30 CFR, Section 75.1914.

All checks listed in this document must be performed in fresh air, in an area where permissible machines are not required.

Machine Serial No. or Property No. _____

MSHA Approval Number _____

Date of Examination _____

Examination Conducted By _____

This checklist may be used for the following machines:

Model No.	Approval No.
LST-5S (Cat)	31-66-0,-1,-2
LST-5S-20X	31-85-2
ST-3.5S	31-90-1 ,-2,-3,-4
LST-5S (MWM)	31-102-2,-3,-4
LST-5S-25X	31-118-0,-1
LMTT-414S (MWM)	31-119-0

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(a) ELECTRICAL ENCLOSURES

1. () (WEEKLY) All explosion-proof electrical enclosures are intact and not damaged, cracked or broken.
2. () (WEEKLY) All electrical enclosures have an MSHA plate attached that is clearly stamped with an MSHA certification number (X/P number).
3. () (WEEKLY) The gap between the electrical enclosures and each enclosure cover does not exceed the maximum dimension listed in 30 CFR, Part 18.31. Use a feeler gauge of appropriate size to check each gap.

(b) ELECTRIC CABLES

1. () (WEEKLY) All electric cables outside of explosion proof enclosures are protected by flame resistant hose conduit. Flexible or threaded rigid metal conduit is not acceptable.

(c) HOSE CONDUIT

1. () (WEEKLY) Hose conduits have MSHA markings that appear as "FLAME RESISTANT, US MSHA, US MESA, or USBM 2G-()".
2. () (WEEKLY) Hose conduits are securely clamped at both ends.
3. () (WEEKLY) Hose conduits are clamped in place to prevent unnecessary movement.
4. () (WEEKLY) Hose conduits are not subject to abrasion from sharp corners or edges.
5. () (WEEKLY) Hose conduits are isolated from fuel lines.
6. () (WEEKLY) Hose conduits are isolated from hydraulic lines and components.

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(d) MOUNTING AND FASTENERS

1. () (WEEKLY) All electrical system components are securely mounted.
2. () (WEEKLY) All threaded covers are secured from loosening by a locking screw, wire, or other means.
4. () (WEEKLY) All screws, bolts, and studs that secure components of explosion-proof enclosures are tight and provided with lockwashers or equivalent locking devices.
5. () (WEEKLY) None of the fasteners used for securing covers on the explosion-proof enclosures are used for attaching non-essential parts or for making electrical connections.

(e) HEADLIGHTS

1. () (WEEKLY) Headlights are installed at each end of the vehicle.
2. () (WEEKLY) Each headlight is securely mounted and guarded or protected by machine location.
3. () (WEEKLY) Headlight lenses are not cracked, broken, or loose.
4. () (WEEKLY) Each headlight is operable.

(f) HEADLIGHT SWITCH

1. () (WEEKLY) The headlight switch enclosure is securely mounted.
2. () (WEEKLY) The headlight switch functions properly. The switch turns the front and rear headlights on and off. The switch does not control or operate any electrical circuits other than the headlights.

(g) ALTERNATOR

1. () (WEEKLY) The alternator is securely mounted.
2. () (WEEKLY) The alternator covers are properly installed and all bolts and lockwashers are in place and tight.

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(h) PACKING GLANDS (Cable Entrances)

1. () (WEEKLY) All packing glands are tight and 1/8 inch minimum clearance remains between the gland nut and the enclosure. (figure 1)
2. () (WEEKLY) All packing nuts are secured from loosening by a locking screw, wire, or other means. (figure 1)
3. () (WEEKLY) All unused cable entrances are closed with metal plugs which are secured in place by tack welding, brazing, or equivalent. (figure 2)
4. () (WEEKLY) All hose conduits are secured to the packing glands with hose clamps.

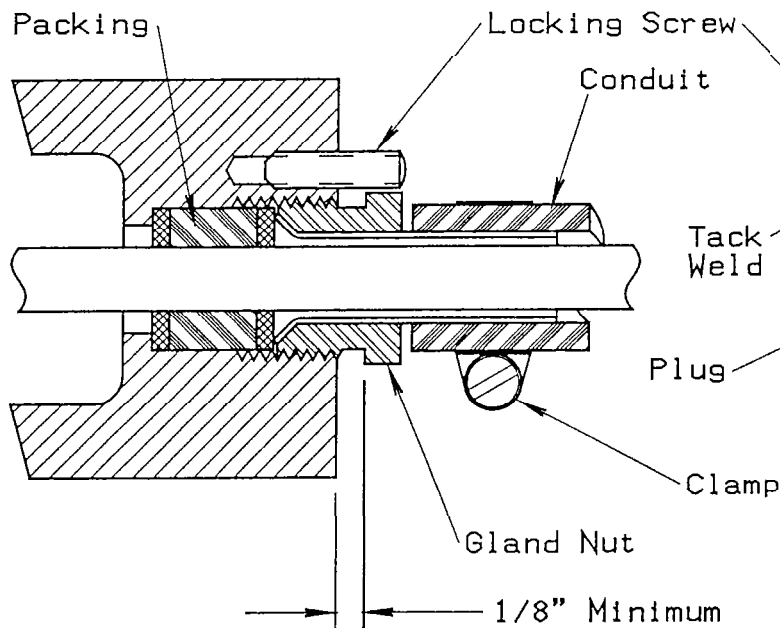


Figure 1

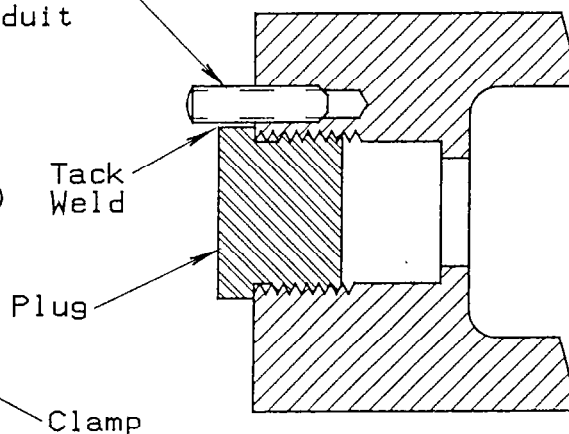
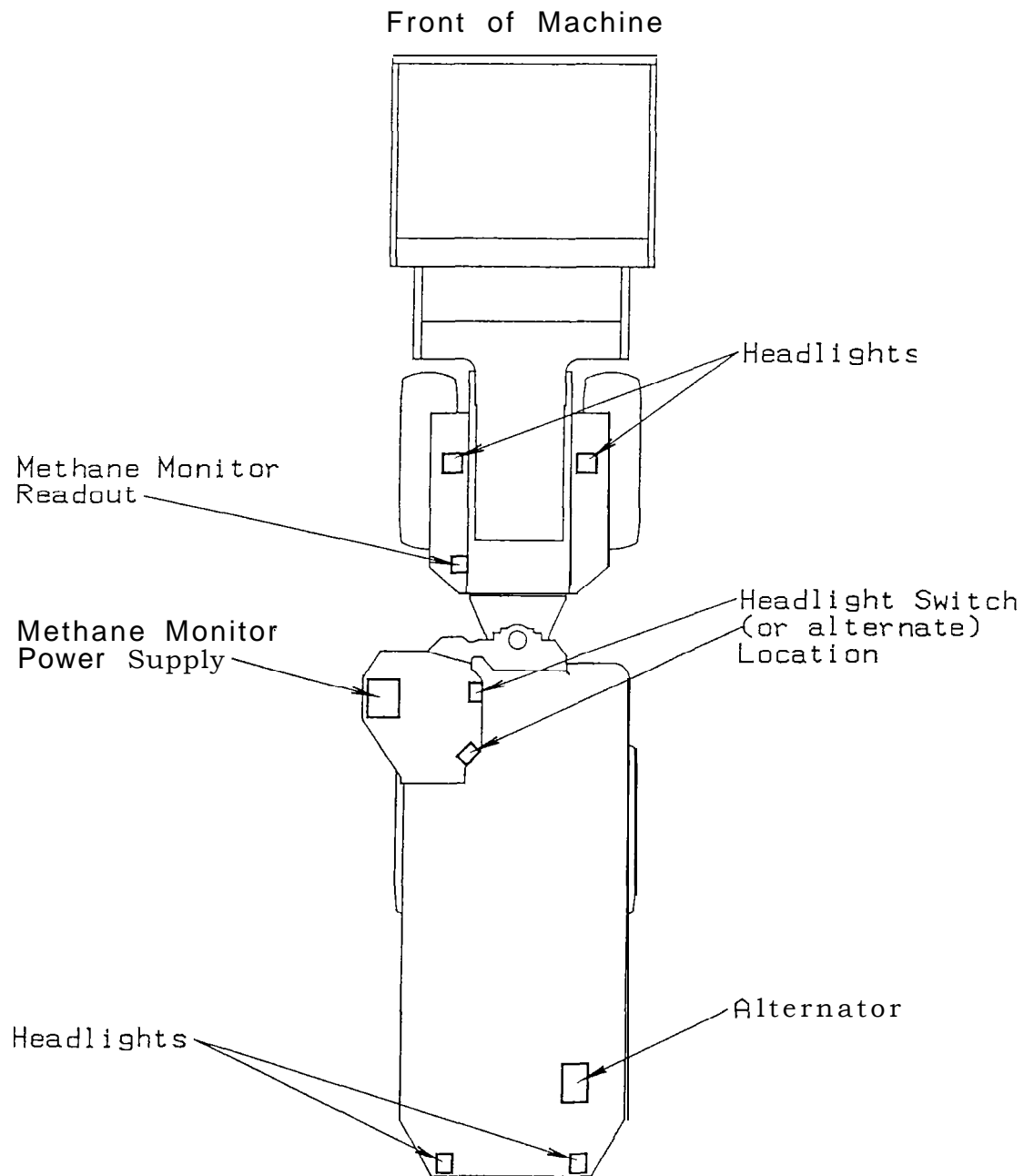


Figure 2

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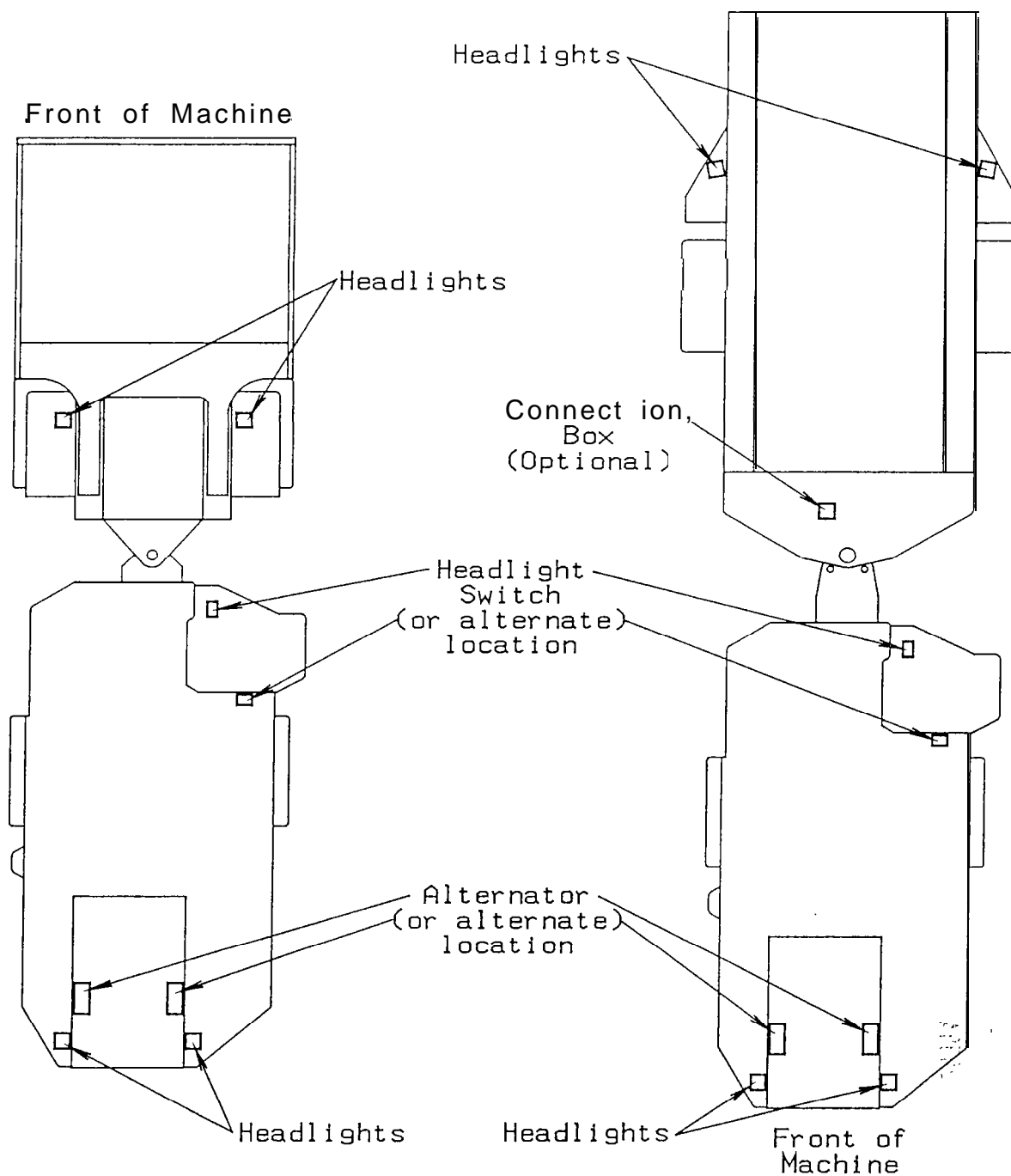
MACHINE LAYOUT: ST-3.5S



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MACHINE LAYOUT: LST-5S
LST-5S-20X
LST-5S-25X

MACHINE LAYOUT: LMTT-414S



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(i) OTHER ELECTRICAL PERMISSIBILITY CHECKS

The following checks should be performed whenever an explosion-proof electrical enclosure has been disassembled for service, repair, inspection, etc, or if there is cause to believe that a problem exists within the enclosure.

These checks must be performed in fresh air where permissible machines are not required.

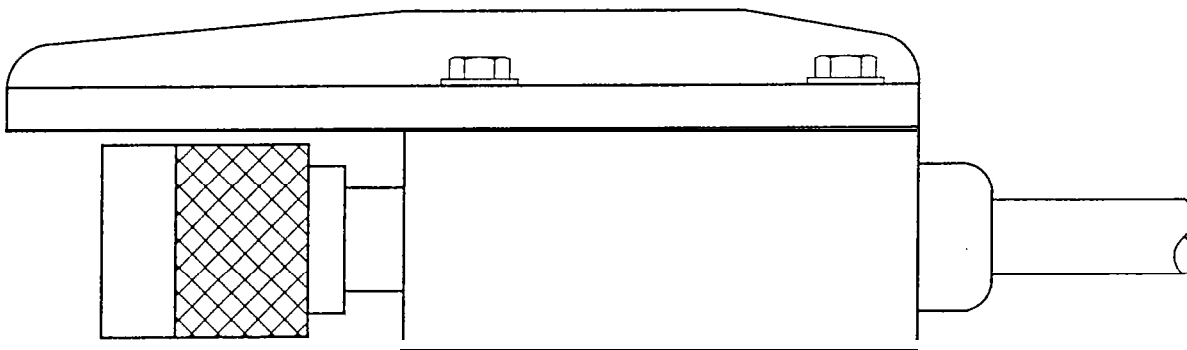
1. () Electrical connections inside the explosion-proof enclosure are tight and are insulated where space is limited. Each enclosure is electrically grounded to the machine frame by a separate conductor in the electric cable. The electric wires extending from the cable jacket are properly insulated and are not broken.
2. () The packing glands (cable entrances) are assembled so that the cable jacket penetrates through the packing gland and into the explosion-proof enclosure.
3. () Fuses are installed in the alternator housing for both power conductors of the electrical circuit. The fuse rating does not exceed 15 amps.
4. () All joints forming flame arresting paths (flanges and covers) are smooth and free from rust, corrosion, and pitting,
5. () Proper lamp assemblies are installed in the headlight enclosures. The lamps are 12 volt, 35/50/60 watt rating.

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(j) METHANE MONITOR

This device is optional equipment. If the machine has a methane monitor system installed, the following checks apply.

1. () (WEEKLY) All methane monitor components are securely mounted on the machine.
2. () (WEEKLY) All explosion-proof enclosures are assembled per paragraph (a) "Enclosures".
3. () (WEEKLY) All packing glands are installed correctly per paragraph (h) "Packing Glands".
4. () (WEEKLY) The vent holes and filter on the sensor head are not clogged with water, dust, mud, or other material (figure 3).



Methane Monitor Sensor Head

Figure 3

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5. () (WEEKLY) The methane monitor readout can be seen by the machine operator from the operator's compartment.
6. () (WEEKLY) The lenses protecting the meter and indicating lamps is not cracked or broken.
7. () (WEEKLY) The methane monitor is properly adjusted to indicate zero (0) percent methane when no methane is present.
8. () (WEEKLY) Test the methane monitor by activating the test switch. A warning is given when one (1) percent methane is indicated on the readout. When two (2) percent methane is indicated on the readout, the engine must shut down and all electrical components are de-energized. (Self-contained, battery-powered headlights, approved under 30 CFR, Part 20, are exempt from this requirement).
9. () (WEEKLY) The engine will not restart until the methane level is below one (1) percent.

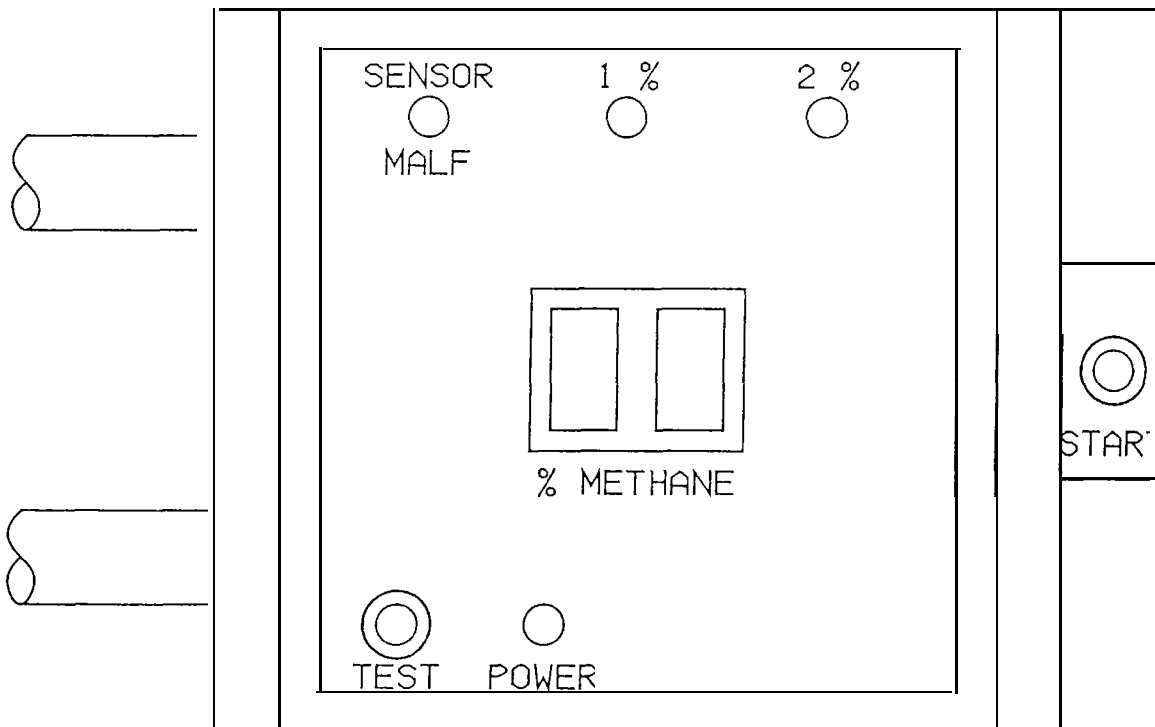


Figure 4